PORT AUTHORITY OF NY & NJ
WORLD TRADE CENTER

CERBERUS/PYROTRONICS
DIRECT SALES DIVISION
SPECIAL PROJECTS

PROJECT COMMUNICATIONS

TO: JOSEPH MIZRAHI
PROJECT ENGINEER
PORT AUTHORITY OF NY & NJ

FROM: JOHN DRUCKER
PROJECT MANAGER
CERBERUS/PYROTRONICS

RE: METHOD OF PROCEDURE (MOP)
MXLV VOICE EVACUATION SWITCHOVER

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1.0 SCOPE:

TRANSFER AUDIO EVACUATION FUNCTIONS FROM THE EXISTING EXECUTONE SYSTEM IN TOWERS 1 & 2 TO THE NEW MXLV SYSTEM. THE WORK SHALL ENCOMPASS AUDIO PAGING SPEAKERS IN THE FOLLOWING AREAS:

1.1 COMMON CORRIDORS - BUILDING CORE
TYPICALLY (3) SPEAKERS PER FLOOR.

1.2 EXIT STAIRWELLS - BUILDING CORE
TYPICALLY (1) SPEAKER IN EACH OF (3) STAIRWAYS EVERY (5) FLOORS.

1.3 DUCT SPEAKER AMPLIFIERS - TENANT SPACES
TYPICALLY (1) AMPLIFIER PER FLOOR DRIVING (4) HVAC DUCT MOUNTED 25 VRMS SPEAKERS.

2.0 WORK:

THE FOLLOWING INSTALLATION, RECONFIGURATION AND TESTING WORK SHALL BE PERFORMED:

2.1 COMMON CORRIDORS -

A) INSTALL NEW 16/2 UNSHIELDED, 600V TEFLON TWISTED PAIR CABLES. NYC/MEA APPROVED. REFERENCE: WTC-EVAC/DWG. E-1.

B) REMOVE EXISTING (3) SPEAKERS. INSTALL (3) NEW CERBERUS/PYROTRONICS 70VRMS CEILING MOUNTED SPEAKERS INTO EXISTING CEILING ENCLOSURES. SET SPEAKER TAPS.

C) TERMINATE WIRING AT TSC CABINET SERVING THAT FLOOR.

D) TERMINATE AND ACTIVATE SPEAKER CIRCUIT IN MXLV FIRE PROTECTION SYSTEM.

E) PERFORM ACCEPTANCE TEST.

2.2 EXIT STAIRWELLS -

A) INSTALL NEW 16/2 UNSHIELDED, 600V TEFLON TWISTED PAIR CABLES. NYC/MEA APPROVED. REFERENCE: WTC-EVAC/DWG. E-1.

B) REMOVE EXISTING (3) SPEAKERS ((1) IN EACH STAIRWELL). INSTALL (3) NEW CERBERUS/PYROTRONICS 70VRMS WALL MOUNTED SPEAKERS AT EXISTING LOCATIONS. SET SPEAKER TAPS.

C) TERMINATE WIRING AT TSC CABINET SERVING THAT FLOOR.

D) TERMINATE AND ACTIVATE SPEAKER CIRCUIT IN MXLV FIRE PROTECTION SYSTEM.

E) PERFORM ACCEPTANCE TEST.

2.3 DUCT SPEAKER AMPLIFIERS -

A) INSTALL NEW 16/2 UNSHIELDED, 600V TEFLON TWISTED PAIR CABLE. NYC/MEA APPROVED. REFERENCE: WTC-EVAC/DWG. E-1.

B) EXTEND SPEAKER CIRCUIT FROM CORRIDOR SPEAKER DESIGNATED ON REFERENCED DRAWINGS TO AMPLIFIER LOCATED IN "E-C CLOSET".

C) REMOVE AMPLIFIER RISER FEED FROM EXISTING SYSTEM. CONNECT NEW SPEAKER CIRCUIT TO EXISTING AMPLIFIER INPUT.

D) PERFORM ACCEPTANCE TEST.

3.0 COORDINATION:

3.1 ALL WORK ON EXISTING SYSTEMS SHALL BE COORDINATED WITH WTC ELECTRICAL OPERATIONS DEPT.

3.2 ALL WORK ON MXLV FIRE PROTECTION SYSTEM SHALL BE COORDINATED WITH CERBERUS/PYROTRONICS.

3.3 A FIRE WATCH SHALL BE INITIATED WHEN ANY PORTION OF THE EXISTING SYSTEMS ARE OUT OF SERVICE DURING CONSTRUCTION.

3.4 CONSTRUCTION SHALL NOT BEGIN UNTIL MXLV PHASE I WORK HAS BEEN COMPLETED.

3.5 UPON COMPLETION ALL 1WTC & 2WTC EVACUATION COMMAND SHALL BE FROM THE MXLV SYSTEM. ALL OTHER AREAS/BUILDINGS SHALL REMAIN ON THE EXISTING SYSTEM LOCATED AT THE 7-7 DESK.

4.0 SCHEDULE:

4.1 TYPICAL FLOOR SCHEDULE:

1) WTC ELECTRICAL OPS DISCONNECTS EXISTING SYSTEM. — *2ND SHIFT 4 - 12 PM*

2) ELECTRICAL CONSTRUCTION WORK. — *2ND & 3RD SHIFT 4 PM - 8 AM*

3) PYROTRONICS CHECK/OUT & MXLV CONNECTION. — *1ST SHIFT (EARLY) 6:00 AM*

4) WTC ELECTRICAL OPS TERMINATES NEW CIRCUITS. — *1ST SHIFT (EARLY) 6:00 AM*

5) ACCEPTANCE TEST — *1ST SHIFT 9:00 AM*

6) COMPLETION — *1ST SHIFT 10:00 AM*

JOHN DRUCKER
JUNE 31 1993

WP51/WTCEVACP

PA 680B
2-74

Charge No.	Program / Project	Area	Job

THE PORT AUTHORITY
OF NEW YORK AND NEW JERSEY
One World Trade Center, New York, N.Y. 10048

J.T. _____
Sheet No. 1 OF 1
Made By: J. MIZRAHI
Checked By: _____

ENGINEERING DEPARTMENT
ESTIMATE

Date: 7/1/93 Name of structure: **WTC TOWERS A & B**

PA SYSTEM FOR TYP. FLOOR (NO STAIRWAY SPEAKERS)

ELECTRICAL ESTIMATE WORK SHEET

Stage: IV

ITEM	DESCRIPTION	QUAN	UNIT	MAT'L	LABOR	TOTAL MAT	TOTAL LBR	REMARKS
1	CORRIDOR CEILING SPEAKERS	3	EA	$45.90	$200.00	$137.70	$600.00	
2	2#16 TEFLON NO SHIELD	250	FT	$0.60	$1.00	$150.00	$250.00	
3	1" GSC	10	FT	$1.75	$6.20	$17.50	$62.00	
4	FINAL CONN. TO AMP. CABINET	1	LS	$0.00	$200.00	$0.00	$200.00	
5	ENGINEERING DRAWINGS	1	LS	$50.00	$0.00	$50.00	$0.00	
6	TESTING	2	HR	$0.00	$85.00	$0.00	$170.00	Provided by Pyrotronics
	TOTAL					**$355.20**	**$1,282.00**	
	TOTAL LABOR & MATERIAL					**$1,637.20**		
	SUB-CONTRACTOR OH&P 20%					**$293.44**		
	GRAND TOTAL					**$1,930.64**		
					USE: $2,000.00			
*	E.C. WORK = 3 MANDAYS/FLR							

Quantities and Unit Prices indicated hereon are applicable only to this estimate and are not to be copied.

PA 680B
2-74

Charge No.	Program / Project	Area	Job

THE PORT AUTHORITY
OF NEW YORK AND NEW JERSEY
One World Trade Center, New York, N.Y 10048

ENGINEERING DEPARTMENT
ESTIMATE

J.T. _____
Sheet No. 1 OF 1
Made By: J. MIZRAHI
Checked By. _____

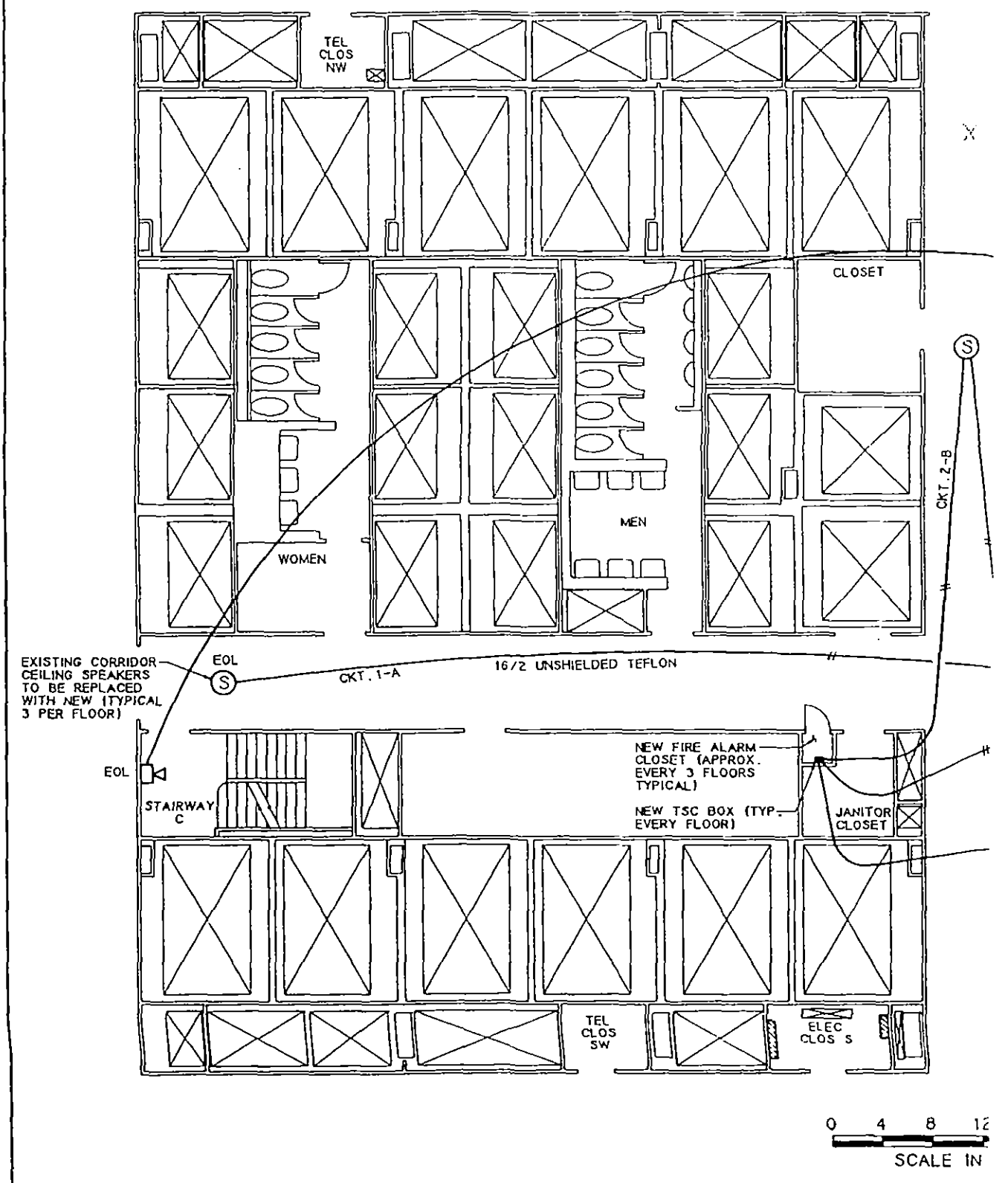
Date: **7/1/93**

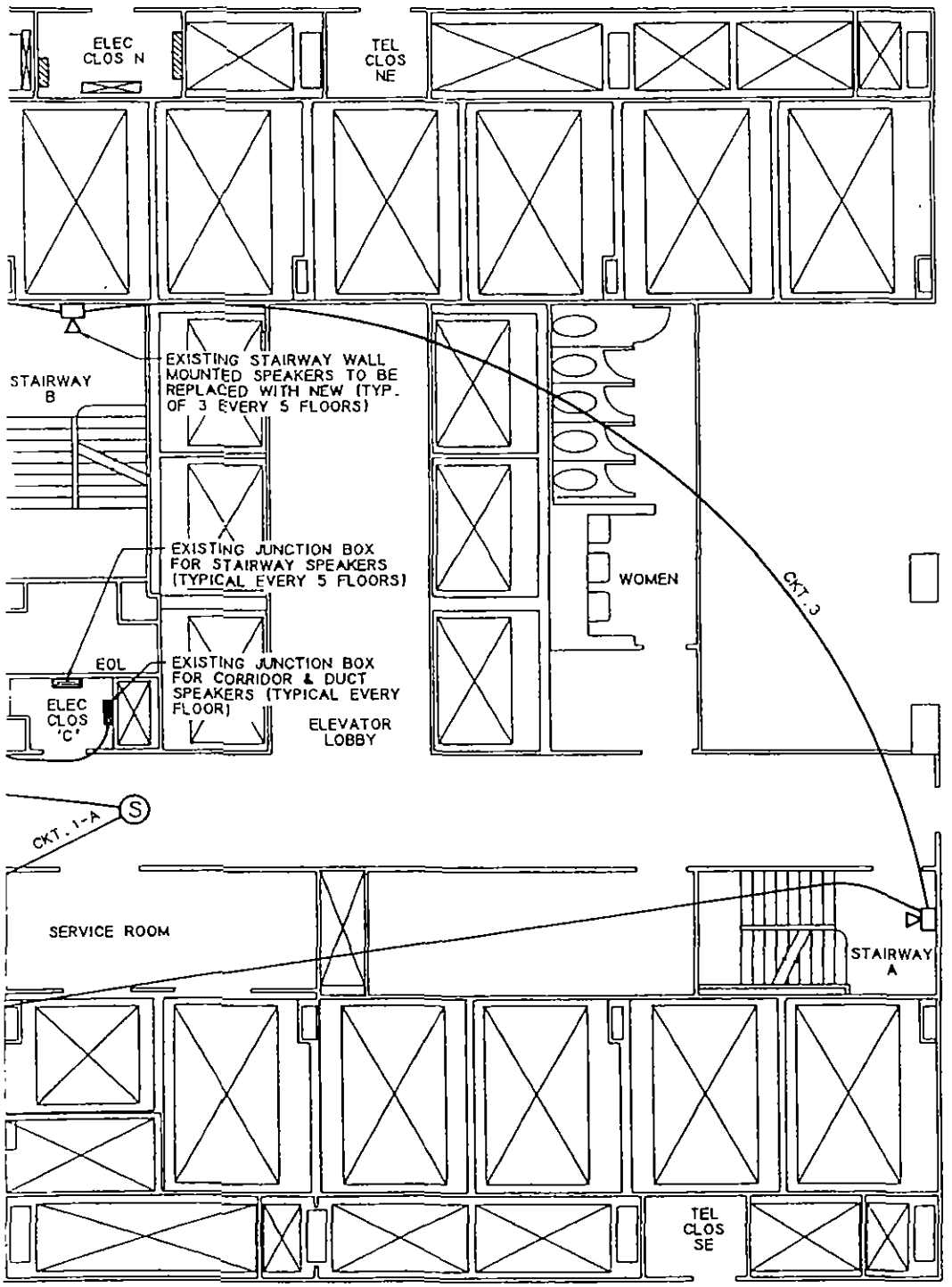
Name of structure: **WTC TOWERS A & B**
PA SYSTEM FOR TYP. FLOOR WITH STAIRWAY SPEAKERS
ELECTRICAL ESTIMATE WORK SHEET

Stage: **IV**

ITEM	DESCRIPTION	QUAN	UNIT	MAT'L	LABOR	TOTAL MAT	TOTAL LBR	REMARKS
1	CORRIDOR CEILING SPEAKERS	3	EA	$45.90	$200.00	$137.70	$600.00	
2	STAIRWAY SPEAKERS	3	EA	$45.00	$100.00	$135.00	$300.00	
3	3/4" GSC	50	FT	$1.40	$5.00	$70.00	$250.00	
4	1" GSC	10	FT	$1.75	$6.20	$17.50	$62.00	
5	2#16 TEFLON NO SHIELD	500	FT	$0.60	$1.00	$300.00	$500.00	
6	FINAL CONN. TO AMP. CABINET	1	LS	$0 00	$200.00	$0.00	$200.00	
7	ENGINEERING DRAWINGS	1	LS	$50 00	$0.00	$50.00	$0.00	
8	TESTING	5	HR	$0.00	$85.00	$0 00	$425.00	Provided by Pyrotronics
	TOTAL					$710.20	$2,337.00	
	TOTAL LABOR & MATERIAL					$3,047.20		
	SUB-CONTRACTOR OH&P 20%					$524.44		
	GRAND TOTAL					$3,571.64		
					USE: $3,600.00			
*	E.C. WORK = 5 MANDAYS/FLR							

Quantities and Unit Prices indicated hereon are applicable only to this estimate and are not to be copied.


TEL CLOS NW
CLOSET
MEN
WOMEN
CKT. 2-B
EXISTING CORRIDOR CEILING SPEAKERS TO BE REPLACED WITH NEW (TYPICAL 3 PER FLOOR)
EOL
CKT. 1-A
16/2 UNSHIELDED TEFLON
EOL
STAIRWAY C
NEW FIRE ALARM CLOSET (APPROX. EVERY 3 FLOORS TYPICAL)
NEW TSC BOX (TYP. EVERY FLOOR)
JANITOR CLOSET
TEL CLOS SW
ELEC CLOS S
0 4 8 12
SCALE IN



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THE PORT AUTHORITY OF NY & NJ

ENGINEER OF DESIGN E.D.D., PORTS AND WORLD TRADE

CHIEF ELECTRICAL ENGINEER

PRELIMINARY

Engineering Department
Design Divisions

The World Trade Center

THIS

WORLD TRADE CENTER
PROPOSED WIRING OF
P.A. SYSTEM FOR
TOWERS A & B

No.	Date	Revision	Approved

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without it's written consent.

Designed by	Drawn by	Checked by
MIZAAHI	GTA	

Date Scale AS NOTED

Contract Number WTC-EVAC

Drawing Number E-1

FILE NAME = PA3732 PRINTED = WED 07-01-1992